



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**26.11.2014 Bulletin 2014/48**

(51) Int Cl.:  
**H04L 7/04 (2006.01) G06K 7/00 (2006.01)**

(43) Date of publication A2:  
**22.12.2010 Bulletin 2010/51**

(21) Application number: **10004875.0**

(22) Date of filing: **07.05.2010**

(84) Designated Contracting States:  
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR**  
Designated Extension States:  
**BA ME RS**

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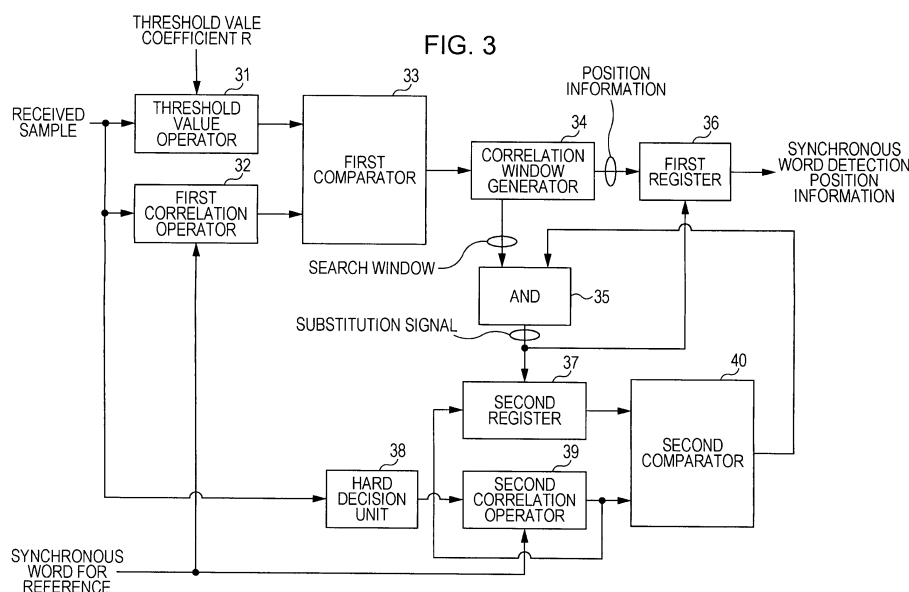
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(30) Priority: **16.06.2009 JP 2009142961**

(54) **Receiving apparatus, receiving method and computer program for correlation of synchronous words**

(57) A data processing apparatus includes a first correlation operation unit which performs a mutual correlation operation of a first input series and a second input series, a threshold value operation unit which calculates a threshold value based on the first input series, a first comparison unit which compares a first mutual correlation value with the threshold value, a search window setting unit which sets a search window for detecting the second input series to the first input series on the basis

of the comparison result, a hard decision unit which performs binarization of the first input series, a second correlation operation unit which performs a mutual correlation operation of a first input hard decision value, and a detection position determining unit which searches for a maximum value of the mutual correlation value within the search window and determines the detection time of the maximum value.





## EUROPEAN SEARCH REPORT

 Application Number  
 EP 10 00 4875

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 00/48354 A1 (SIMOCO INT LTD [GB]; STEPHENS PETER WILLIAM [GB]; MCMAHON PAUL [GB]) 17 August 2000 (2000-08-17) * abstract * * page 1, line 5 - line 19 *	1-11	INV. H04L7/04 G06K7/00
X	EP 1 936 858 A1 (DEUTSCHE THOMSON OHG [DE]) 25 June 2008 (2008-06-25) * paragraph [0001] - paragraph [0002] * * paragraph [0017] * * paragraph [0019] - paragraph [0022] * * paragraph [0025] - paragraph [0028] *	1-11	
A	US 6 738 437 B2 (CHI RICHARD [US] ET AL) 18 May 2004 (2004-05-18) * column 2, line 44 - column 4, line 16 * * figure 1 *	1-11	
A	US 2005/286661 A1 (KWAK JUNG-WON [KR]) 29 December 2005 (2005-12-29) * paragraph [0041] - paragraph [0044] * * paragraph [0051] - paragraph [0052] * * paragraph [0060] *	1-11	TECHNICAL FIELDS SEARCHED (IPC) H04L
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 21 October 2014	Examiner Marongiu, M
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 10 00 4875

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
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21-10-2014

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0048354 A1	17-08-2000	AU 1871900 A GB 2354915 A WO 0048354 A1	29-08-2000 04-04-2001 17-08-2000
EP 1936858 A1	25-06-2008	NONE	
US 6738437 B2	18-05-2004	CN 1504025 A EP 1371168 A2 HK 1063250 A1 JP 4361274 B2 JP 2005505152 A KR 20030086605 A US 2002161737 A1 WO 02076010 A2	09-06-2004 17-12-2003 28-09-2007 11-11-2009 17-02-2005 10-11-2003 31-10-2002 26-09-2002
US 2005286661 A1	29-12-2005	BR PI0502425 A CA 2510496 A1 CN 1713628 A JP 2006014334 A KR 20050122017 A US 2005286661 A1	31-01-2006 23-12-2005 28-12-2005 12-01-2006 28-12-2005 29-12-2005

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82